

Towards an Index of Idiolectal Similitude for British English and Mexican Spanish phonology

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This paper is concerned with the study of an individual's 'idiolectal style' in its application to forensic voice comparison¹. The term 'idiolectal style' is adopted following Turell (2010) and makes reference to the particular choices in linguistic production that a person makes -both in written and oral production- which appear to be 'individual' and 'unique' (Turell, *Ibid* quoting Coulthard, 2004).

The research that is presented in this paper is concerned with this 'idiolectal style' and its relationship to variationist sociolinguistics, in that it regards the study of individual phonological variation as a means to identify different spoken 'idiolectal styles', which may in turn discriminate between the speakers' different voices. The main objective of this research is to compare several oral samples in English and Spanish and calculate the linguistic distance between them so that an Index of Idiolectal Similitude (IIS) for the phonological patterns of these two languages can be created. This IIS is intended to help to establish what kind of idiolectal similitude is needed to reliably say that two oral samples have been produced or not by the same individual.

The development of this IIS is based on the study of the realisation and distribution of certain phonetic and phonological variables mainly related to processes of elision, insertion and change of sounds, such as glottalisation of /t/, linking /r/ or yod-coalescence in English. All these variables have been formulated categorically -i.e. with two possible variants, which are normally the presence or the absence of the process. A group of 20 and 14 variables was selected and analysed for the Spanish of Mexico and the English of the South East of England respectively. The data analysed were extracted from a panel study, following the Labovian framework (Labov 1966, 1973), by which the same speakers were recorded in two different moments of their lives. The main hypotheses of this study are 1) that intra-speaker variation (variation within the same individual) is lower than inter-speaker variation (the variation between different speakers); and b) that an individual's 'idiolectal style' remains quite stable despite the course of time.

Two different methodologies based on statistical tests that have been used to examine these hypotheses will be explained. On the one hand, Method 1 uses multidimensional scaling to calculate Euclidian distances. On the other hand, Method 2 is based on Chi-square tests for each of the variables. Preliminary statistical analyses show interesting results in that a) the variation in the realisation of the phonological variables by the same speaker seems to be lower than the variation between speakers; and b) the phonological patterns observed within the same speakers seem to remain quite stable throughout time. Thus, the study of the 'idiolectal style' and individual

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variation by using the IIS approach is presented as a substantial contribution to forensic phonetics, and it can help forensic expert witnesses carry out forensic voice comparison in a more accurate and reliable way. It is also considered that its added value is the contribution made to increase the population distribution data (Base Rate Knowledge) in the two language varieties considered.

References

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